

Notice of Allowability

Application No.

10/674,300

Examiner

Tuan A. Vu

Applicant(s)

BUTT ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/27/06.
2. ☒ The allowed claim(s) is/are 1,2,4-6,8-10,12,13,15,16,18 and 19 (renum 1-14).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>3/15/07</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>See Continuation Sheet</u> . |

Continuation of Attachment(s) 9. Other: Examiner's Amendment: Amended claims 3/14/07.

DETAILED ACTION

1. This action is responsive to the Applicant's response filed 12/27/2006.

As indicated in Applicant's response, claims 1-2, 4-6, 8-10, 12-13, 15-16, 18-19 have been amended, and claims 3, 7, 11, 14, 17, 20 canceled. Claims 1-2, 4-6, 8-10, 12-13, 15-16, 18-19 are pending in the office action.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Dale Regelman, Reg # 45625 on 3/14/07.

The application has been amended as follows:

In The CLAIMS: (See **attachment hereinafter**: complete set of Claims with markings).

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

3. Claims 1-2, 4-6, 8-10, 12-13, 15-16, 18-19 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art taken separately or jointly does not suggest or teach the following features.

A method for performing an automated Licenced Internal Code (LIC) update on a storage controller (SC), the SC (i) comprising a first and second cluster, each having an installation directory; wherein the first cluster comprises a first cluster primary boot drive, a first cluster backup drive; and the second cluster comprises a second cluster primary boot drive, a second

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cluster backup drive, the method comprising (ii) copying a LIC update in said first and second cluster installation directory and installing a LIC update to the first cluster backup drive and the second cluster backup drive;

the method performing a **concurrent** update of the SC, as recited in claims 1, 9, and 15 by:

(iii) quiescing said second cluster and transferring control of the SC to said first cluster; rebooting said second cluster using said second cluster backup drive; transferring control of the SC to said second cluster; (iv) quiescing said first cluster; rebooting said first cluster using said first cluster backup drive;

and controlling operation of the SC by said first cluster and said second cluster;

the method performing a **non-concurrent** update of the SC, as recited in claims 5, 12, and 18, by:

(v) suspending operation of said SC; quiescing said first cluster and second cluster; (vi) rebooting said first cluster using said first cluster backup drive; rebooting said second cluster using said second cluster backup drive;

and controlling operation of the SC by said first cluster and said second cluster;

SGI_TPL, 'SGI Total Performance 9100 (2Gb TP9100) Storage System User's Guide', discloses a system of Raid controllers with online rolling firmware upgrade capability, whereby once a first controller has a latest image of firmware installed, I/O control is shifted to the upgraded controller so that the next controller is updated with the firmware; but **SGI_TPL** does not suggest distinct installation directories of the first and second cluster, each cluster having each a primary and a backup boot drive as in (i) to install update version of LIC to just the first

and second cluster backup drive as in (ii) in order to perform distinct sequences of quiescing, suspending and rebooting as set forth in the **concurrent** paradigm described via the specific sequence of steps of (iii) and (iv); or in the **non-concurrent** paradigm described via the specific sequence of steps of (v) and (vi).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (272) 272-3735. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571)272-3756.

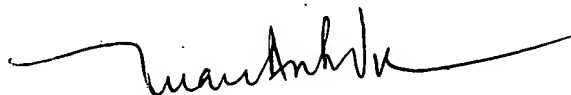
The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3735 (for non-official correspondence - please consult Examiner before using) or 571-273-8300 (for official correspondence) or redirected to customer service at 571-272-3609.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tuan A Vu', with a long horizontal flourish extending to the right.

Tuan A Vu
Patent Examiner,
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March 15, 2007

Attachment follows: Amended Claims as per 3/14/07